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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,961	04/12/2004	Mieko Matsuda	251577US2RD	2367
22850	7590	06/14/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			GOODEN JR, BARRY J	
			ART UNIT	PAPER NUMBER
			3616	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/821,961	MATSUDA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Barry J. Gooden Jr.	3616	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-23 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/12/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:

The Specification is filled with numerous grammatical errors, examiner suggests carefully reviewing the specification for errors and correcting them without entering new matter.

Examples of errors:

At page 5, line 3, "object along with a" should be replaced with "object along a".

At page 11, line 12, "positions those fulfills the" should be replaced with "positions fulfilling the".

At page 12, line 2, "based the position" should be replaced with "based on the position".

At page 23, line 18, "an bag system" should be replaced with "an air bag system".

Appropriate correction is required.

### *Claim Objections*

2. Claim 1 is objected to because of the following informalities:

Claim 1, line 7, "with" should be removed.

Claim 2, line 24, "with" should be removed.

Claim 3, line 14, "emits a" should be replaced with "emits an".

Claim 9, line 22, "shortest" should be replaced with "a shortest"

Claim 13, line 23, "with" should be removed.

Claim 14, line 19, "with" should be removed.

Claim 15, line 4, "with" should be removed

Claim 19, line 6, "with" should be removed.

Claim 22, line 5, "with" should be removed.

Claim 23, line 19, "with" should be removed.

Appropriate correction is required.

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***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 10 recites the limitation "the seat" in lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim. Examiner suggests replacing "the seat" with "a seat".

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-5, 8, 10-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono, US Publication 2001/0052985 A1 in view of the applicant's disclosure.

With regards to claims 1-5, 8, 10-13, and 22, the limitation "a holding mechanism", does not provide a structure defining over the prior art. As the systems of the prior art are stationary during distance detecting operation, any structure maintaining the respective emitters and detectors, in relation to one another, would meet the limitation of "a holding mechanism".

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In regards to claims 1-5, 8, 10-13, and 22, Ono discloses all of the claimed elements including a distance detecting apparatus comprising:

- a light emitting unit (26), the light having a distributed pattern in a predetermined direction;

- a photographing device (28);

- a holding mechanism;

the light emitting unit and photographing device being held in relation to one another such that:

- a. the photographing direction is not in a plane that includes both the light emitting direction and the predetermined direction of the distributed pattern, and

- b. the photographing direction is not parallel to the light emitting direction; and

- a distance deriving unit (80);

wherein the light emitting unit emits an infrared light, and

the photographing device obtains an infrared image;

wherein the distance deriving unit derives a distance based on the image when the light emitting unit emits the light;

wherein the light emitting unit emits the light having a distributed pattern perpendicular to the light emitting direction;

further comprising:

- a dividing unit (50) that divides the image into a plurality of regions; and

- an identifying unit that identifies a position of the distributed pattern of light in the image by calculating an average of a high-luminance part in each of the regions;

wherein the distance deriving unit stores a relation between positions of the distributed pattern of the light in the image and distances, and derives the distance by referring to the relation stored;

wherein the distance deriving unit derives the distance based on a position of the distributed pattern of the light in the image, by extracting a high luminance part in the image, and identifying whether the high-luminance part corresponds to the position of the distributed pattern of the light in the image;

further comprising:

- a memory unit;

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a processor;

wherein the distance deriving unit derives a distance between the object and a predetermined position based on a position of the pattern light in the image (Reference is made to the Abstract and Figures 1, 3, 4, and 6).

In regards to claims 14-21 and 23, Ono discloses all of the claimed elements including deriving a distance between the object and a predetermined position based on an interval between the pattern lights in the image.

Ono discloses all of the claimed elements excluding an airbag system wherein the light emitting unit emits the light towards a front side of a vehicle seat.

Applicant has disclosed (page 1, lines 18-22) that it is common practice to detect a distance between an object and a predetermined point, and to use the detected distance as a parameter to control something. For instance, it is known to control spreading out of an air bag in case of a car accident based on the distance between a passenger and a predetermined point.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the distance detecting apparatus of Ono in view of the applicant's disclosure to include controlling an air bag deployment so as to provide secure and controlled deployment that may reduce injury.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ono in view of the applicant's disclosure as applied to claim 2 above, and further in view of Adachi, US Patent 6,572,139.

In regards to claim 6, Ono in view of the applicant's disclosure teaches all of the claimed elements excluding a discretely distributed pattern.

Adachi teaches of a discretely distributed pattern (Reference is made to Figure 12).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the distributed pattern of Ono in view of the applicant's disclosure in view of the teachings of Adachi to include being discretely distributed so as to provide a more accurate distance measurement.

10. Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hillebrand et al., US Patent 6,678,598.

With regards to claims 1-4 and 7, the limitation "a holding mechanism", does not provide a structure defining over the prior art. As the systems of the prior art are stationary during distance detecting operation, any structure maintaining the respective emitters and detectors, in relation to one another, would meet the limitation of "a holding mechanism".

In regards to claims 1-4 and 7, Hillebrand et al discloses all of the claimed elements including a distance detecting apparatus for controlling an air bag system comprising:

a light emitting unit that emits a light in a light emitting direction having a distributed pattern and being infrared;

a photographing device;

a holding mechanism;

the light emitting unit and photographing device being held in relation to one another such that:

a. the photographing direction is not in a plane that includes both the light emitting direction and the predetermined direction of the distributed pattern, and

b. the photographing direction is not parallel to the light emitting direction; and

a distance deriving unit;

wherein the light emitting unit emits an infrared light, and

the photographing device obtains an infrared image;

wherein the distance deriving unit derives a distance based on the image when the light emitting unit emits the light;

wherein the distance deriving unit further comprises an identifying unit that identifies a position of the distributed pattern of the light in the image by comparing a first image that is an image when the light

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emitting unit emits the light and a second image that is an image when the light emitting unit does not emit the light.



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***Allowable Subject Matter***

11. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry J. Gooden Jr. whose telephone number is (571) 272-5135. The examiner can normally be reached on Monday-Friday 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on (571) 272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BJG

Barry J Gooden Jr.  
Examiner  
Art Unit 3616



**ERIC CULBRETH  
PRIMARY EXAMINER**